

REMARKS

Reconsideration and allowance of the application are respectfully requested in light of the above amendments and the following remarks.

Claim 49 has been amended to correct a minor typographical mistake. No new matter is added.

The Office Action maintains the rejections of claims 30-52 under 35 U.S.C. § 102(e) as being anticipated by Kim et al. US 7,200,789 (hereinafter, “Kim”) and provides responses (OA, pgs. 2-8) to the Applicants’ previous remarks included in an Amendment filed on September 8, 2010. Upon reviewing the Office Action’s responses, the Applicants respectfully disagree with at least two of the Office Action’s arguments and respectfully traverse the rejection based on the points set forth below.

As previously explained in an Amendment filed on September 8, 2010, claim 30 is directed towards a method for transmitting data packets from a mobile terminal to a base station using a hybrid automatic repeat request protocol and soft combining of received data and recites features of:

“...transmitting a data packet from the mobile terminal to the base station via a first data channel,

receiving a feedback message from the base station at the mobile terminal, wherein the feedback message indicates whether the data packet has been successfully received by the base station, and

in case the feedback message indicates that the data packet has not been received successfully, transmitting a retransmission data packet from the mobile terminal to the base station via a second data channel, wherein a transmission time interval of the first data channel is smaller than a transmission time interval of the second data channel” (emphasis added)

As emphasized above, aspects of the method recited by Applicants' claim 30 include using a hybrid automatic repeat request (HARQ) retransmission scheme and further using different channels for performing the initial transmission and the retransmission. Furthermore, claim 30 recites that the transmission time intervals on the two channels is different: in particular, a longer transmission time interval is used on the channel for the retransmissions.

Kim does not disclose using different channels for performing the initial transmission and the retransmission

In the Amendment filed on September 8, 2010, the Applicants pointed out that Kim fails to disclose the feature of: "...transmitting a data packet from the mobile terminal to the base station via a first data channel" and "...transmitting a retransmission data packet from the mobile terminal to the base station via a second data channel," as recited by claim 30. The Applicants noted that Kim discloses that all transmissions (i.e., initial transmissions and retransmissions) are transmitted via the "supplemental channel 105", as disclosed in each and every embodiment of Kim. (see col. 3, lines 11-23 and FIG. 2).

In response to these arguments, the Office Action (pg. 3) disagrees and alleges that Kim does, in fact, disclose this above-noted feature of claim 30, stating:

"The Examiner respectfully disagrees with the statement and points out though it may not be very clear to the applicant from the cited text, the text clearly mentions that a ratio of the power level of a reverse pilot signal to a power level of a supplemental channel, wherein both channels are being power controlled, it should be emphasized that the fact that there are two separate channels here being referenced, one being the supplemental channel and the other being the reverse channel, which are not the same channels. Further, it is pointed out in (column 3, lines 4-23), that initial transmission is undertaken as shown in fig. 2, in step 201, and retransmission is done over the reverse supplemental channel being 205, when the reverse pilot channel 101 and the reverse fundamental channel 103 are set up. Thus, the Kim reference teaches the retransmission data packet is

transmitted from the mobile terminal to a base station via a second data channel (column 3, lines 4-23). (emphasis added)

In response to the Office Action's arguments, it is first noted that the "cited text" of Kim referred to by the Office Action (i.e., col. 3, lines 4-23 of Kim) discloses the following:

"FIG. 2 is a signal flow diagram during reverse data transmission in a CDMA2000 mobile communication system supporting HARQ. In addition, FIG. 2 illustrates a signaling flow during initial transmission and retransmission of data over the reverse supplemental channel 105 when the reverse pilot channel 101 and the reverse fundamental channel 103 are set up.

When there is data to be transmitted in a reverse direction, a mobile station (MS) initially transmits the data over a supplemental channel according to a present TPR value in step 201. Then a base station (BS) receives the initially transmitted data, and determines in step 202 whether an error has occurred in the initially transmitted data. If an error has occurred in the initially transmitted data, the base station transmits to the mobile station a NACK signal indicating occurrence of an error in step 203. The mobile station then receives the NACK signal transmitted by the base station in step 204. Upon receiving the NACK signal, the mobile station retransmits the initially-transmitted data at a TPR value negotiated with the base station in step 205."

Thus, as noted above, Kim explicitly discloses that FIG. 2 illustrates a signaling flow "...during initial transmission and retransmission of data over the reverse supplemental channel 105." This statement is completely clear and unambiguous: both the initial transmission and the retransmission of data are transmitted over the reverse supplemental channel 105. In other words, it is immediately apparent from column 3, lines 6-10 of Kim, which is also relied on by the Office Action, that the initial transmission and retransmission of data is performed over the (single) reverse supplemental channel 105, once the reverse pilot channel 101 and the reverse fundamental channel 103 are set up. The mere fact that Kim mentions the "reverse pilot channel 101" and the "reverse fundamental channel 103," as pointed out in the Office Action, does not change the fact that Kim explicitly teaches that the transmission and retransmission of data is performed on one single channel, the reverse supplemental channel 105.

In this connection, the Office Action's above-noted statement that retransmission is done over the "reverse supplemental channel being 205" (which suggests that Kim teaches two separate channels for the transmission and retransmission) is incorrect and mischaracterizes the teachings of Kim, because Kim clearly labels the reverse supplemental channel with the reference numeral "105," not "205." Instead, reference numeral 205 is used to denote a method step in FIG. 2, and not to denote a second channel, as is apparent from Kim's disclosure at column 3, lines 21-23.

Also, when examining the embodiment of Kim shown in FIGs. 3a and 3b, it is further noted that steps 301 and 305 (Fig. 3a), corresponding to steps 311 and 315 (Fig 3b), explicitly illustrate that the initial transmission as well as the retransmission are transmitted on the SCH, i.e., the single supplemental channel, which clearly means that the transmission and retransmission are transmitted on the same channel, similar to the embodiment described above in FIG. 2. Furthermore, the description of the embodiment shown in FIGs. 3a and 3B clearly describes that both the transmission and the retransmission are transmitted over the single supplemental channel 105. (see Kim, col. 6, lines 22-36 (Fig. 3a) and col. 7, lines 11-44 (Fig. 3b)).

Thus, as previously explained in the Amendment filed on September 8, 2010, every embodiment of Kim teaches that both the initial transmission and retransmission are transmitted over the same channel. Therefore, Kim does not disclose that the initial transmission and retransmission are transmitted on two distinct data channels, and as a result, fails to disclose the feature of: "...transmitting a data packet from the mobile terminal to the base station via a first data channel!" and "...transmitting a retransmission data packet from the mobile terminal to the base station via a second data channel," as recited by claim 30.

Kim does not disclose that the transmission time interval of the first data channel is smaller than the transmission time interval of the second data channel

In the Amendment filed on September 8, 2010, the Applicants also pointed out that Kim fails to disclose the feature of: "...wherein a transmission time interval of the first data channel is smaller than a transmission time interval of the second channel," as recited by claim 30.

Specifically, it was noted that Col. 3, lines 11-20 of Kim, relied on by the previous Office Action, simply does not disclose this feature of claim 30.

In response to these arguments, the Office Action (pg. 4) disagrees for the following reasons:

"The Examiner respectfully disagrees with the statement, and points out as explained above in (column 8, lines 37-45), at initial transmission a tpr value of 10db is used which would mean a faster transmission speed, and the number of code symbols transmitted at retransmission is 50% of those transmitted at initial transmission, wherein a new TRP of retransmission is adjusted to 7db, which would mean that the amount of information is also reduced because not all the symbols are being transmitted now in consecutive retransmissions, but also the speed or in this case the time interval is also changed, because obviously the first transmission is done at a more powerful 10db, which would mean faster and more powerful transmission, as opposed to the second retransmission. Further, Kim also mentions that by retransmitting using the adjusted TPR value, it will improve the transmission performance for consecutive retransmissions. Thus, the Kim references teaches wherein a transmission time interval of the first data channel is smaller than a transmission time interval of the second channel (column 8, lines 13-22) and (column 8, lines 37-45)." (emphasis added)

However, these arguments set forth in the Office Action are not accurate.

By way of review, col. 8, lines 37-45 of Kim, relied upon in the Office Action, discloses the following:

"In addition, a mobile station readjusts a TPR [traffic-to-pilot power ratio] value so that when transmitting the code symbols, a ratio E_b/N_t of energy to interference per symbol is constant. When the mobile station readjusts a TPR value in this manner, a new TPR value is determined according to the number of

code symbols. For example, if TPR used at initial transmission is 10 dB and the number of code symbols transmitted at retransmission is 50% of those transmitted at initial transmission, a new TPR of retransmission is adjusted to 7 dB.”

Considering the example outlined above in column 8, lines 42-45 of Kim where the initial transmission is transmitted at 10 dB and the retransmission only contains 50% of the code symbols of the initial transmission while reducing the TPR for the retransmission to 7 dB, the fact that more power is used for the initial transmission does not imply that the retransmission is performed “faster” than the retransmission. On the contrary, in a slotted communication system (i.e. the slots corresponding to transmission time intervals), each slot has the same length, irrespective of the transmission power. Nothing is mentioned in Kim that supports the Office Action’s argument

Furthermore, it is noted that Kim simply does not even mention anything about “transmission time intervals” of channels in this above-noted passage, and therefore clearly fails to teach or suggest the feature of: “...wherein a transmission time interval of the first data channel is smaller than a transmission time interval of the second channel,” as recited by claim 30.

Accordingly, the Applicants respectfully submit that Kim fails to disclose, either expressly or inherently, at least these two above-noted features of claim 30, and that allowance of claim 30 and all claims dependent therefrom is warranted for at least this reason. Claims 51 and 52 similarly recite the above-mentioned subject matter distinguishing claim 30 from Kim, though do so with respect to a mobile terminal and a base station, respectively. Accordingly, it is respectfully submitted that allowance of claims 30, 51 and 52 and all claims dependent therefrom is warranted for at least these reasons.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

/James Edward Ledbetter/

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